

Purpose & Goal

Providing anticoagulation therapy is a Joint Commission National Patient Safety Goal that can impact the safety of patients when performed incorrectly. The Nursing Professional Development Specialist and Informatics Nurse surmised that by incorporating clinical decision support (CDS) tools into nursing workflows during EMR training, nursing compliance for: PTT monitoring and Heparin nomogram calculations may improve nurses' responsiveness in preventing harm to patients caused by: complex nomograms, insufficient PTT monitoring, and inconsistent EMR workflow knowledge.

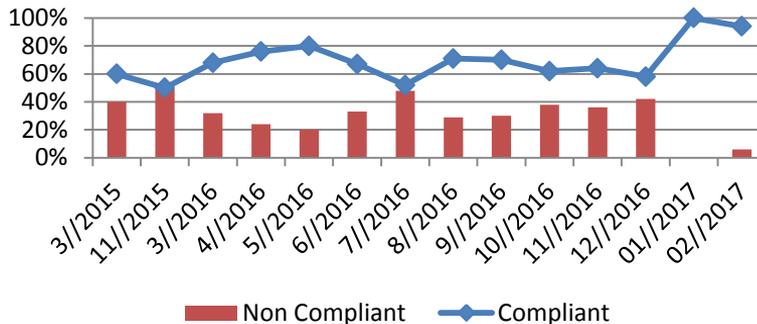
The **goal** of this educational initiative was to improve PTT timing and accuracy of Heparin nomogram calculations.

Description

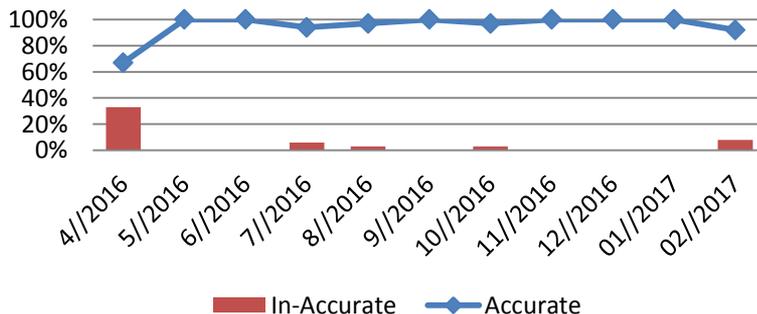
ADPIE (Assessment, Diagnosis, Planning, Implementation, and Evaluation) process: After observing current EMR and nursing workflows at the unit level during Heparin administration (Assessment), it was determined that the EMR tools that were developed for the nurses, were inadequately and inconsistently utilized by the nurses (Diagnosis). A Heparin simulation incorporating the CDS tools (e.g. Work list, Sidebar Report, and hyperlinked Heparin calculators) was constructed and scripted for standardization; and a 1-hour simulation session, which occurred over a 1 week period, was mandated for all inpatient nurses (Planning and Implementation).

Data/ Charts

PTT Timing at 6 hours (+/-) 30 minutes



Heparin Dose Calculation Accuracy



Evaluation & Outcomes

Nursing staff verbalized their satisfaction with this simulation strategy. Verbal comments included: "I got it"; "I didn't know these tools were available"; "The process works". Also, 87% of the nurses demonstrated accurate independent application of the EMR workflow with the second validation scenario and many verbally recommended this strategy for all new hire nurses during unit orientation.

This educational initiative led to sustained improvement in Heparin dose calculation accuracy (95% to 100%), but wide variable improvement (52% to 100%) for PTT timing. Incorporating nursing workflows builds nurses' muscle memory during simulation training. It also provides a plan for future nursing complex EMR workflows.

References

Moss, J., & Berner, E. (2015). Evaluating clinical decision support tools for medication administration safety in a simulated environment. *International Journal of Medical Informatics*, 84:308-318.

Nutescu, E.A., Wittkowsky, A.K., Burnett, A., Merli, G.J., Ansell, J.E., & Garcia, D.A. (2013). Delivery of optimized inpatient anticoagulation therapy: Consensus statement from the anticoagulation forum. *The Annals of Pharmacotherapy*, 48(5):714-724.